

WHAT IS CLAIMED IS:

1. An information processing apparatus for receiving data described in a markup language and including first hierarchical level elements delimited by predetermined tags and second hierarchical level elements which belong to a range delimited by the predetermined tags, and displaying the received data on a display device, comprising:

receiving unit adapted to receive key-input first or second signals;

switching unit adapted to switch selection between the first hierarchical level elements or between the second hierarchical level elements when the first signal is received, and switching selection between the first and second hierarchical level elements when the second signal is received.

2. The apparatus according to claim 1, wherein the data described in a markup language is a digital broadcasting data.

3. The apparatus according to claim 1, further comprising:

selected element display unit adapted to display the selected element on said display device,

wherein if the selected element is a first hierarchical level element, said selected element display unit highlights all the first hierarchical level elements.

4. The apparatus according to claim 1, further comprising:

selected element display unit adapted to display the selected element on said display device,

5 wherein when the first or second signal is received, said selected element display unit highlights an element to be selected.

5. An information processing apparatus for receiving data described in a markup language and including a
10 plurality of elements delimited by predetermined tags, and displaying the received data on a display device, comprising:

identifying unit adapted to identify an information amount contained in each of said plurality
15 of elements;

receiving unit adapted to receive a key-input signal;

switching unit adapted to, when the signal is received, switch selection between said plurality of
20 elements on the basis of the information amount of each element identified by said identifying unit.

6. An information processing apparatus for receiving data described in a markup language and including first hierarchical level elements delimited by predetermined
25 tags and second hierarchical level elements which belong to a range delimited by the predetermined tags, and displaying the received data on a display device,

comprising:

identifying unit adapted to identify an
information amount contained in each of the elements;

receiving unit adapted to receive key-input first
5 or second signals;

switching unit adapted to switch selection
between the first hierarchical level elements or
between the second hierarchical level elements when the
first signal is received, on the basis of the
10 identified information amount, and switching selection
between the first and second hierarchical level
elements when the second signal is received.

7. The apparatus according to claim 5, wherein the
data described in a markup language is a digital
15 broadcasting data.

8. The apparatus according to claim 5, wherein the
information amount contained in each element is an area
when the element is displayed.

9. The apparatus according to claim 5, wherein the
20 information amount contained in each element is the
number of characters contained in the element.

10. The apparatus according to claim 5, wherein the
information amount contained in each element is the
number of bytes of data contained in the element.

25 11. An information processing method of displaying,
on a display device, data described in a markup
language and including first hierarchical level

elements delimited by predetermined tags and second hierarchical level elements which belong to a range delimited by the predetermined tags, comprising:

5 a receiving step of receiving key-input first or second signals;

a switching step of switching selection between the first hierarchical level elements or between the second hierarchical level elements when the first signal is received, and switching selection between the
10 first and second hierarchical level elements when the second signal is received; and

a selected element display step of displaying the selected element on the display device.

12. The method according to claim 11, wherein the
15 data described in a markup language is a digital broadcasting data.

13. The method according to claim 11, wherein if the selected element is a first hierarchical level element, the selected element display step highlights all the
20 first hierarchical level elements.

14. The method according to claim 11, wherein when the first or second signal is received, the selected element display step highlights an element to be selected.

25 15. An information processing method of receiving data described in a markup language and including a plurality of elements delimited by predetermined tags,

and displaying the received data on a display device,
comprising:

- an identification step of identifying an
information amount contained in each of the plurality
5 of elements;
 - a receiving step of receiving a key-input signal;
 - a switching step of, when the signal is received,
switching selection between the plurality of elements
on the basis of the information amount of each element
10 identified by the identifying step; and
 - a selected element display step of displaying the
selected element on the display device.

16. An information processing method of receiving
data described in a markup language and including first
15 hierarchical level elements delimited by predetermined
tags and second hierarchical level elements which
belong to a range delimited by the predetermined tags,
and displaying the received data on a display device,
comprising:

- 20 an identification step of identifying an
information amount contained in each of the elements;
 - a receiving step of receiving key-input first or
second signals;
 - a switching step of switching selection between
25 the first hierarchical level elements or between the
second hierarchical level elements on the basis of the
identified information amount when the first signal is

received, and switching selection between the first and second hierarchical level elements when the second signal is received; and

5 a selected element display step of displaying the selected element on the display device.

17. The method according to claim 15, wherein the data described in a markup language is a digital broadcasting data.

18. The method according to claim 15, wherein the
10 information amount contained in each element is an area when the element is displayed.

19. The method according to claim 15, wherein the information amount contained in each element is the number of characters contained in the element.

15 20. The method according to claim 15, wherein the information amount contained in each element is the number of bytes of data contained in the element.

21. A control program for allowing a computer to implement an information processing method cited in
20 claim 11.

22. A control program for allowing a computer to implement an information processing method cited in claim 15.

23. A control program for allowing a computer to
25 implement an information processing method cited in claim 16.

24. An information processing apparatus for receiving

data described in a markup language, and displaying an object on a display device, comprising:

searching unit adapted to search the received data for a display element described as a selectable
5 display object;

attribute information adding unit adapted to add, to the display element found by said searching unit, attribute information indicating whether the element is selectable; and

10 display unit adapted to display, on said display device, the data to which the attribute information is added, in the form of an object.

25. The apparatus according to claim 24, wherein the data described in a markup language is a digital
15 broadcasting data.

26. The apparatus according to claim 25, wherein the data is described in BML.

27. The apparatus according to claim 24, further comprising storage unit adapted to store, as object
20 data, the data to which the attribute information is added.

28. The apparatus according to claim 26, wherein said searching unit performs search by using one of a p element, object element, div element, input element,
25 span element, and anchor element as a keyword.

29. The apparatus according to claim 28, wherein said attribute information adding unit discards an event

handler set for each of the display elements found by said searching unit, sets a style for selection, and at the same time sets an order of switching of selection between the display elements.

5 30. The apparatus according to claim 28, wherein said attribute information adding unit discards an event handler set for each of the display elements found by said searching unit, assigns an access key corresponding to a predetermined key number, and
10 inserts, in each of the display elements, display data for displaying a number.

31. An information processing apparatus for receiving data described in a markup language, and displaying an object on a display device, comprising:

15 storage unit adapted to store the received data;
 pointer control unit adapted to display a pointer on said display device;

 designating unit adapted to designate an arbitrary position by moving the displayed pointer; and

20 extracting unit adapted to search the data stored in said storage unit for a display element corresponding to a display object in the position designated by said designating unit, and extracting the display element.

25 32. The apparatus according to claim 31, wherein the data described in a markup language is a digital broadcasting data.

33. An information processing method of receiving data described in a markup language, and displaying an object on a display device, comprising:

5 a search step of searching the received data for a display element described as a selectable display object;

an attribute information addition step of adding, to the display element found in the search step, attribute information indicating whether the element is
10 selectable; and

a display step of displaying, on the display device, the data to which the attribute information is added, in the form of an object.

34. The method according to claim 33, wherein the
15 data described in a markup language is a digital broadcasting data.

35. The method according to claim 34, wherein the data is described in BML.

36. The method according to claim 33, further
20 comprising a storage step of storing, as object data, the data to which the attribute information is added.

37. The method according to claim 35, wherein the search step performs search by using one of a p element, object element, div element, input element,
25 span element, and anchor element as a keyword.

38. The method according to claim 37, wherein the attribute information addition step discards an event

handler set for each of the display elements found in the search step, sets a style for selection, and at the same time sets an order of switching of selection between the display elements.

5 39. The method according to claim 37, wherein the attribute information addition step discards an event handler set for each of the display elements found in the search step, assigns an access key corresponding to a predetermined key number, and inserts, in each of the
10 display elements, display data for displaying a number.

40. An information processing method of receiving data described in a markup language, and displaying an object on a display device, comprising:

a storage step of storing the received data;
15 a pointer control step of displaying a pointer on the display device;

a designation step of designating an arbitrary position by moving the displayed pointer; and

an extraction step of searching the digital
20 broadcasting data stored in the storage step for a display element corresponding to a display object in the position designated in the designation step, and extracting the display element.

41. The information processing method according to
25 claim 40, wherein the data described in a markup language is a digital broadcasting data.

42. A control program for allowing a computer to

implement an information processing method cited in
claim 33.

43. A control program for allowing a computer to
implement an information processing method cited in
5 claim 40.